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ABSTRACT

A project was conducted at American River College, in California, to develop and apply a transfer eligibility measure as a companion to the college's transfer rate. The transfer eligible rate is calculated by dividing the number of transfer directed students by those who are transfer eligible. In the original model, transfer directed students were defined as new freshmen with no prior college units who completed at least six credit units by the end of their first academic year and successfully completed transfer-level English writing and math courses at any time during a specified period. Transfer eligible students were defined as those who met the definition of transfer directed and who also successfully completed 56 or more transfer-level units within a specified period of time with a cumulative grade point average of 2.0 or higher in transfer courses. Using the model, outcomes were determined for all 10,782 freshmen in fall semesters from 1987 through 1991, finding that 1,618 met the definition of transfer directed, while 1,089 of these met the definition of transfer eligible. A transfer eligible rate of 67.3% was thus calculated for the college. A second analysis using a model that defined transfer directed students as those who had indicated transfer as a goal achieved a similar eligible rate of 66.6%. As a result, the model's definition of transfer directed students was altered to those who have successfully passed university-level English and math courses. Data tables are included. (TGI)

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ED 390 484

The Transfer Eligible Rate: Longitudinal Results of a Companion Measure to the Transfer Rate

By

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Abstract

The Transfer Eligible Rate: Longitudinal Results of a Companion Measure to the Transfer Rate.

This project developed an institutionally useful definition of students who reach transfer eligible status that is independent of the familiar transfer rate. Composite freshmen groups without prior college units were tracked for periods of 4 - 5 years. The findings suggest: (1) high eligible rates, especially for full-time students; and (2) at least a four-year time frame is necessary to provide a reasonable opportunity of becoming transfer eligible. The tracking model and resulting data are incorporated into an ongoing institutional effectiveness plan that is disseminated through departmental levels.

Acknowledgments

We wish to thank Sharon McCuen, Dean of Research & Development, for her continued support of our research projects which sometimes transcend those only of immediate value to our college. Sharing ideas and results with a community of researchers around the state is a very gratifying experience for us.

The following people contribute significantly to our productivity by providing resources that many other community college researchers can only fantasize. They are:

Max McDonald, former interim President; Steve Epler, past Vice President of Instruction (now President of Yuba College); Rosemary Montijo, Vice President of Student Services; and Al Ghoston, Dean of Counseling.

We also want to thank Sue Lorimer and John McGregor, both from our counseling department, for their valuable input during our "rap"sessions concerning operational definitions.

The District Research Office is also thanked for their cooperation in providing timely downloads of student transcript data which made semester-to-semester compilations and analyses possible.

Finally, we wish to extend a hearty thanks to Les Birdsall and his partner Larry Boese for the unusual opportunity to directly compare models on the same data set.

The Transfer Eligible Rate:
Longitudinal Results of a Companion Measure to the Transfer Rate

Historical Background For The Preliminary Rasor/Barr Approach (Model 1): A Beginning

As every community college researcher knows, there are some difficulties with calculating the conventional transfer rate even though one must concede that the bottom line question is "what percent of community college students transfer?" As we see it, there are three controversial issues to the transfer rate: The first concerns definition of the denominator, that is, the value to be divided into the number of students who transferred. Obviously, not all students intend to transfer nor may they have the ability to do so. How then, shall students who would make up an improved denominator be conceptualized and easily identified within a data base?

The second issue concerns when the transfers are to be counted. Much debate is possible over whether one or even two years is enough time to allow for a community college "leaver" to surface at a four-year college. This question is especially pertinent for an older, working student population contrasted against ever increasing living costs and tuition at four-year universities.

The third controversial issue deals with under counting. All community college transfers must be counted, whether enrolling in private universities or out-of-state colleges. Simply put, there needs to be a better tracking system to correct what many believe to be a serious under count.

Until such time as these issues are resolved, we offer companion approaches which reflect our thinking (or others) at the time. They overcome the three controversial issues mentioned above but also have some unique problems. All deal with a TRANSFER ELIGIBLE RATE. Our recommended final model (Model 5) will be presented after other approaches are presented.

First, what was needed was a precise definition of the denominator that we call the **transfer directed**.

Our first operational definition: ***New freshmen students without prior college units, who at the end of the first academic year completed at least 6 credit units, and who at any time during a specified enrollment period at the college (or colleges within the district), successfully completed ("C" or higher using any grade of record) the transfer level English writing course (e.g., English 1A or ESL equivalent) as well as a transfer level math course, both of which satisfy these particular general education requirements in the California State University system.***

Before dissecting the above definition, let us continue to next part, the **transfer eligible**, i.e., the numerator.

The operational definition of transfer eligible is: ***Students who earlier met the definition of transfer directed, and who also successfully completed 56 or more transfer level units (or quarter unit equivalent) within a specified period of time, with a cumulative GPA of 2.0 or higher in those transfer courses.***
The final ratio and definition of **transfer eligible rate** is:

$$\frac{\text{Student Count of Transfer Eligible}}{\text{Student Count of Transfer Directed}} \times 100$$

Rationale Behind Definition of Transfer Directed (Denominator):

"New freshmen students without prior college units" .....This represents a relatively "clean" starting group of students even though community colleges certainly prepare intermediate students for transfer (those bringing in units to the community college from another college). For research purposes, we suggest using freshmen. They are the principle target group for matriculation and student equity efforts at improving academic success. Our experience has shown that new freshmen have a 49% success rate (with a GPA of 1.74) their first semester.

If all students are to be counted (i.e., including the "intermediates"), then the computerized data base must be capable of showing the number of units transferred in, as well as the particular courses for which credit is given. Specifically, one would need to know if the transfer level English writing and transfer level math requirements were met with "C" or higher, the transfer level units, and the GPA based upon transfer units. Obviously the "intermediates" present much greater computer tracking problems than using only new freshmen.

....."who at the end of the first academic year completed at least 6 credit units"..... Rather surprisingly, we discovered that nearly 50% of American River College new freshmen completed little or no units within a full academic year (Fall, Spring, Summer). A profile of them will be presented later in this report. This would leave a residual group (6+ units) that show some positive academic motion in any type of course.

".....and who at any time during a specified enrollment period at the college (or colleges within the district) successfully completed ("C" or higher using any grade of record) the transfer level English writing course (e.g., English 1A or ESL equivalent) as well as a transfer level math course, both of which satisfy these particular general education requirements in the California State University System."

It is our belief that by having a definition that requires the successful completion of an English writing course and a mathematics course, reasonably assures that a student is transfer bound and has the necessary minimum ability to be seriously considered as a potential transfer. *".....at any time...."* allows students the flexibility of choosing when (and are able) to enroll in English 1A and/or transfer level math.

The CSU general education pattern was chosen because more students transfer to that system than to the UC system. It would also appear to be the more lenient of the two in terms of reaching a point of being able to transfer.

Rationale Behind Definition of Transfer Eligible (Numerator):

The students who become transfer eligible are simply those who meet the definition of transfer directed and who also successfully complete 56 or more transfer level units (within a designated period of time) with a cumulative GPA of 2.0 or higher in those transfer courses. The assumption is that by meeting this standard of 56+ units with a "C" or higher average, a student would have met other general education category requirements as well which would enable direct transfer to the CSU system. Note that the CSU system may increase or decrease their specific general education entry standards for junior status.

Some people may argue that 60 units should be used in the numerator definition. In keeping with a minimum definition of who "could transfer" without being qualified directly from high school, we recommend using 56 units as a cutoff point.

Still Some Controversy?

As mentioned before, the entire approach of transfer eligibility raises some controversial issues of its own. Some will say that imperfect as the transfer rate may be, it still is the best yardstick, and that the transfer eligible rate is just an attempt to circumvent it. That is a political statement. The transfer eligible rate is another way of examining the data. Large gaps between the transfer eligible rate and the actual transfer rate raises another research question, "why the difference?"

The second issue is redundancy, that is, 6 units or more are within the definition of the denominator (transfer directed) and the same 6 units are found in the numerator of 56+ units (transfer eligible). These values can be adjusted (e.g., 3 units for the denominator and 60+ for the numerator), but some redundancy will always exist if the denominator definition is based upon a given number of units completed - the same as with the numerator. We do not have a problem with this amount of redundancy, though some people may.

Results: First Set of Trial Runs

Before beginning this next section please be aware that **N**, the sample size, will vary from one analysis to another. The reason for this is that as the time period is extended from two years to five years, more semesters are added, meaning that our initial starting semesters are fewer. For example, with a two-year block of time, we started with all freshmen during the Fall semesters of 1987 through 1991. For each starting group, we allowed two semesters for completion of the criteria. Thus, the 1991 group would have until Fall 1993. (As this report is prepared, we do not yet have data for Fall 1994). By contrast, in order to allow five years to elapse, we were only able to combine the freshmen groups who started in Fall 1987 and Fall 1988. Finally, other models, to be discussed shortly, use different selection criteria with the beginning freshmen. In any event, the sample sizes will be noted in each table.

TABLE 1. COMPOSITE FIRST-YEAR FRESHMEN RESULTS FROM FALL 1987 THROUGH FALL 1992 WHO DID AND DID NOT COMPLETE 6 OR MORE UNITS DURING FIRST ACADEMIC YEAR.[1]

	Did Complete 6+ Units	Did not Complete 6+ Units
Unduplicated Count (N)	10,820	9,686
Grade Records	43,656	23,849
	Grade Notations (%)	**Grade Notations (%)**
A	24.9	5.9
B	25.0	5.0
C + CR	24.4	6.3
D	7.6	3.4
F+ NC	6.1	25.5
WT	12.1	53.9
% Success[2]	74.3	17.2
Research GPA[3]	2.49	1.34
Regular GPA[4]	2.65	1.22

6+ Units or Not

The first thing we did was link together all new freshmen for the academic years of Fall 87 through Fall 92. The initial sort was based upon whether the student completed 6 or more units within the first academic year. Table 1 compares these two groups on the basis of their first-year outcomes.

Admittedly, it was a surprise that slightly under 49% of new freshmen were excluded from further analysis on this project because they failed to earn 6 units within the first academic year. The under 6-unit group were not very successful with a conventional GPA of 1.22 and an overall success rate of 17.2% compared with a 74.3% success rate for students who initially completed 6 units. Clearly, this indicated to us that the community college is a "revolving door" for many students. Much research and intervention efforts need to be spent on these unsuccessful freshmen. However, the purpose of this paper is directed toward the transfer eligible so no more will be written of the unsuccessful freshmen.

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1 All students had at least one grade of record as of first census.

2 Success is defined as counts of A, B, C, CR divided by all grade notations except I and IP.

3 Research GPA is a 4-point scale where A=4, B=3, C or CR = 2, and D, F, NC, WT = 1.

4 Regular GPA is computed as A=4, B=3, C=2, D=1, F=0. Grade notations of CR, NC, or WT are excluded.

Time To Complete Transfer English & Math

We examined the completion rate of transfer English and transfer math as a function of length of years at ARC. Table 2 shows this relationship.

TABLE 2. THE PERCENT OF FRESHMEN COMPLETING 6+ UNITS IN THEIR FIRST ACADEMIC YEAR (100%), AND WHO ALSO COMPLETED TRANSFER LEVEL ENGLISH AND MATH WITHIN A SPECIFIC TIME SPAN.

	Period in Years			
	2 Years	3 Years	4 Years	5 Years
Sample Size (N)	9,152	7,291	5,537	3,683
Completed Transfer English at ARC	43.5%	47.8%	49.0%	49.0%
Completed Transfer English & Math at ARC	20.8%	26.6%	29.2%	30.6%
Completed Transfer English & Math at any Los Rios College			30.1%	31.8

In explaining the contents of Table 2, of those who completed 6+ units (made equivalent to 100%), what percent completed transfer English within two years? The answer is 43.5%. What percent completed both transfer level English and math within four years? The answer is 29.2%. When we allowed units to be counted within the district (e.g., completing English 1A at Sacramento City College), the rate increased by approximately 1%.

These results show that about 30% of these students completed their transfer English and math requirements within five years. The two-year rate is substantially less, approximately 21%. What is beginning to emerge is a picture that will receive further support later, namely, that it is unrealistic to think of community colleges as two-year institutions, something hardly new to experienced educators in the system.

The final point in this subsection is the finding that students will concurrently enroll in other colleges to meet their basic educational requirements. A transfer eligible rate (or a transfer rate) needs to take this fact into account. The decision needs to be made whether to allow such district-wide units or ignore them.

Time To Complete 56 Transfer Level Units With "C" or Higher

Common sense would suggest that the more time allowed, the more likely students will complete a program of study (up to a point of course!). Data in Table 3 show this to be the case.

TABLE 3. PERCENT OF ALL NEW FRESHMEN WHO COMPLETED TRANSFER ENGLISH AND TRANSFER MATH AND WHO ALSO COMPLETED 56+ TRANSFER UNITS WITH A GPA OF 2.00+ WITHIN A SPECIFIC TIME SPAN.

	Period in Years			
	2 Years	3 Years	4 Years	5 Years
Sample Size (N)	9,152	7,291	5,537	3,683
56+ Units with GPA of 2.00 or higher	5.1%	15.9%	19.7%	21.1%
Transfer Eligible Rate	24.6%	59.6%	67.3%	68.9%

For example, 21.1% of the original group who successfully completed English and math, completed 56 or more units with a 2.00+ GPA average within five years. Only 5.1% had accomplished this goal within two years. This is what we meant earlier by stating that the community college should not be perceived as a two-year institution.

The transfer eligible rates increase dramatically at year 4 and then begins to level off after that (although still increases). The important point is that a four-year period of time would seem to be a minimum for calculating a transfer eligible rate. Five years would be even better, but such a mass of data may overload some systems, may not be retrievable, or parts of it may be outdated through shifts in student demography.

Transfer Eligible Rates as a Function of Academic Load

In Table 4 are the transfer eligible rates for full-time (24+ units first year), middle-time (12 to 23.5 units first year), and part-time (6 to 11.5 units first year). Logically, full-time students reach their eligible status at higher rates within a fixed period of time than do students carrying smaller unit loads. Our data are sparse for a six-year period and not included in Table 4, yet part-time students at that point have an eligibility rate of 52.6%.

TABLE 4. TRANSFER ELIGIBLE RATES AS A FUNCTION OF TIME PERIOD AND INITIAL STUDENT LOAD.[5]

	Period in Years			
	2 Year	3 Years	4 Years	5 Years
Full-time	29.4%	64.9%	71.2%	71.7%
Middle-time	0.3%	39.0%	55.9%	62.2%
Part-time	0.0%	10.0%	28.0%	45.5%

A summary of the first Rasor/Barr approach (Model 1) using a four-year period is shown as Table 5 on the next page. This table will also serve as a comparison for other models to be discussed shortly.

[5] All students completed transfer level English and Transfer Level math requirements. The original sample sizes for merely completing 6+ units with a 2 year time frame were: Full-time=4,426, Middle-time=3,552, Part-time=1,174.

TABLE 5. DETAILED DATA FOR THE TRANSFER RATE (MODEL 1).

ENROLLMENT PERIOD *4 YEARS*
SCHOOL *ARC*
YEAR STARTED *COMPOSITE Fall 87, 88, 89 Semesters*

	Count	Percent
Initial Cohort-All Freshmen	10,782	100.0
Completed 6+ Units in One Academic Year	5,537	51.4
Did Not Complete 6+ Units in One Academic Year	5,245	48.6

Transfer Directed	Calc		Count	Percent	Calc
	A	**All**	**5,537**	**100.0**	**A/A**
		Full-time	2,671	100.0	
Completed 6+ Units		Middle-time	2,167	100.0	
		Part-time	699	100.0	
	B	**All**	**2,715**	**49.0**	**B/A**
		Full-time	1,815	68.0	
And Transfer English		Middle-time	791	36.5	
		Part-time	109	15.6	
	C	**All**	**1,618**	**29.2**	**C/A**
		Full-time	1,253	46.9	
And College Level Math		Middle-time	340	15.7	
		Part-time	25	3.6	

Transfer Eligible					
	D	**All**	**1,096**	**19.8**	**D/A**
		Full-time	898	33.6	
And 56+ Transfer Units		Middle-time	191	8.8	
		Part-time	7	1.0	
	E	**All**	**1,089**	**19.7**	**E/A**
		Full-time	892	33.4	
And GPA 2.00+(Transfer Courses)		Middle-time	190	8.8	
		Part-time	7	1.0	

Transfer Eligible Rate				
	All	**1,089**	**67.3**	**E/C**
	Full-time	892	71.2	
	Middle-time	190	55.9	
	Part-time	7	28.0	

As shown in Table 5, we started with 10,782 students, but only 5,537 completed 6 or more units within the first year. Of that group 2,715 (49%) successfully completed transfer English within the four-year time period. Of the English completers, 1,618 also completed transfer level math. These students are considered the transfer directed.

Continuing, of the transfer directed, 1,089 completed 56 or more transfer units with at least a "C" average. Notice that these students constitute the transfer eligible group. Finally, the transfer eligible rate is obtained by dividing 1,089 by 1,618. This results in a rate of 67.3% for all students. The percentages at each criterion cut show the reduction from the original 100% who completed 6+ units their first academic year. Academic load breakouts are also shown in Table 5. For example, among part-time students, 15.6% completed transfer English within four years of enrollment.

The Birdsall & Boese Models

Alternative approaches by Les Birdsall and Larry Boese (both at Diablo Valley College) also use eligibility (or readiness to transfer) in their models but with variations in the denominator. We were able to run our data using their approaches. The contrasting models of Rasor/Barr (Model 1) versus Birdsall/Boese models may be made by examining Table 5 versus Tables 6, 7, & 8.

Birdsall/Boese (referred to as Model 2)

This model uses a freshmen cohort who merely indicated "transfer" as a goal on the admissions application form. There were no other restrictions other than all freshmen had some grade of record (including even a "W") the first semester. This denominator definition is the most lenient of all put forth for consideration. We are uncomfortable with it because anyone can state "transfer" as a goal without suitable background or ability. In any event, we ran ARC's data using this model. The results are presented in Table 6.

TABLE 6. BIRDSALL-BOESE (MODEL 2) WHERE TRANSFER ELIGIBLE DENOMINATOR IS STUDENT INDICATED TRANSFER AS A GOAL.

Note: This model is applied to the same set of data as in Table 5 for direct comparison.

ENROLLMENT PERIOD	*4 YEARS*
SCHOOL	*ARC*
YEAR STARTED	*COMPOSITE Fall 87, 88, 89 Semesters*

Initial Cohort - All Freshmen	**Count**	**Percent**
Freshmen Cohort - Ed Goal = Transfer	6,885	100.0

Transfer Eligible

56+ Transfer Units	1,222	17.7
And GPA 2.00+ Transfer Courses	1,213	17.6

Transfer Eligible Rate:	**1,213**	**17.6**

Numerator = 56+ Units & 2.00+ GPA Transfer Level Courses
Denominator = Goal of Transfer

Contrasting the overall results of Table 5 versus 6, the transfer eligible rates are 67.3% versus 17.6% with the first of the Birdsall/Boese models. Keep in mind that identical data are being used throughout all model comparisons.

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Birdsall/Boese (referred to as Model 3)

This model is an extension of model 2 in that the denominator includes only freshmen who indicated "transfer" as a goal but also enrolled in transfer level English and math (in this comparison, within four years). Notice that the denominator does not require successful completion of English or math, only enrollment. The comparative results using ARC data are presented in Table 7. The ending transfer eligible rate is now 51.8%

TABLE 7. BIRDSALL-BOESE (MODEL 3) WHERE TRANSFER ELIGIBLE DENOMINATOR IS STUDENT INDICATED TRANSFER AS A GOAL AND ENROLLED IN TRANSFER LEVEL ENGLISH AND TRANSFER LEVEL MATH. [6]

Note: This model is applied to the same set of data as in Table 5 for direct comparison.

ENROLLMENT PERIOD	*4 YEARS*
SCHOOL	*ARC*
YEAR STARTED	*COMPOSITE Fall 87, 88, 89 Semesters*

Initial Cohort - All Freshmen	Count	Percent
Freshmen Cohort Ed Goal = Transfer	6,885	100.0
Transfer Directed		
And Enrolled in Transfer Level English	3,311	48.1
And Enrolled in Transfer Level Math	2,097	30.5
Transfer Eligible		
56+ Transfer Units	1,095	15.9
And GPA 2.00+ Transfer Courses	1,086	15.8
Transfer Eligible Rate	**1,086**	**51.8**

Numerator = 56+ Units & 2.00+ GPA Transfer Level Courses
Denominator = Goal of Transfer, Enrolled in Transfer Level English and Transfer Level Math

[6] "Enrolled in" only shows intent without implying successful completion of the course.

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Birdsall/Boese (referred to as Model 4)

The results of Model 3 are closer to the Rasor/Barr approach (Model 1) in that the denominator consists of only freshmen who indicated "transfer" as a goal, but who also successfully completed transfer level English and transfer level math (within four years). These results are presented in Table 8. The resulting eligibility rate is now 66.6% which is nearly identical with the results of the Rasor/Barr Model 1 depicted in Table 5 (67.3%).

TABLE 8. BIRDSALL-BOESE (MODEL 4) WHERE TRANSFER ELIGIBLE DENOMINATOR IS STUDENT INDICATED TRANSFER AS A GOAL AND SUCCESSFUL COMPLETION IN TRANSFER LEVEL ENGLISH AND TRANSFER LEVEL MATH. (NOTE: THIS MODEL IS APPLIED TO THE SAME SET OF DATA AS IN TABLE 5 FOR DIRECT COMPARISON).

ENROLLMENT PERIOD	*4 YEARS*
SCHOOL	*ARC*
YEAR STARTED	*COMPOSITE Fall 87, 88, 89 Semesters*

Initial Cohort - All Freshmen	**Count**	**Percent**
Freshmen Cohort Ed Goal = Transfer	6,885	100.0
Transfer Directed		
And Successfully Completed Transfer Level English	2,494	36.2
And Successfully Completed Transfer Level Math	1,492	21.7
Transfer Eligible		
56+ Transfer Units	1,000	14.5
And GPA 2.00+ Transfer Courses	993	14.4
Transfer Eligible Rate	**993**	**66.6**

Numerator = 56+ Units & 2.00+ GPA Transfer Level Courses
Denominator = Goal of Transfer, Successfully Completed Transfer Level English and Transfer Level Math.

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The Simplified & Recommended Version (Model 5)

After seeing the results of the last run (Model 4 of Birdsall/Boese), it occurred to us that if their results were nearly identical to ours, then indicating "transfer" as a goal was about the same (in terms of effect) as requiring 6 units of credit within the first year of attendance. We wondered what would happen if all that were eliminated which would simply leave within the definition of the denominator, successfully completed transfer English and transfer math (within a designated time)? The results are presented in Table 9.

TABLE 9. (MODEL 5, RBBB OR BBBR) A SIMPLIFIED TRANSFER ELIGIBLE APPROACH

ENROLLMENT PERIOD *4 YEARS*
SCHOOL *ARC*
YEAR STARTED *COMPOSITE Fall 87, 88, 89 Semesters*

Initial Cohort - All Freshmen	Count	Percent
Freshmen Cohort	10,782	100.0
Transfer Directed		
Successfully Completed Transfer Level English	2,887	26.8
and Successfully Completed Transfer Level Math	1,667	15.5
Transfer Eligible		
and 56+ Transfer Units	1,121	10.4
and GPA 2.00+ Transfer Courses	1,114	10.3
Transfer Eligible Rate	**1,114/1,667**	**66.8**

Numerator = 56+ Units & 2.00+ GPA Transfer Level Courses
Denominator = Successfully Completed Transfer Level English and Transfer Level Math.

In Table 9, starting with all freshmen (but with a grade of record in the first semester, and omitting any restriction on initial load or indication of transfer - just successful completion of transfer English and transfer math), resulted in nearly identical results, a transfer eligible rate of 66.8%. This model is the most simple of all, can be done without sophisticated computer

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programming, and preserves the largest starting sample size because no restrictions are placed up front. **It is this model that we most prefer. We acknowledge that it took much time and effort going through other approaches before coming to this conclusion.**

In Table 10 are some final transfer eligible rate comparisons between Models 1, 4, and 5.

TABLE 10. TRANSFER ELIGIBLE RATES (%) FOR DIFFERENT MODELS AS A FUNCTION OF TIME.

Model	Time Period in Years		
	3 Years	4 Years	5 Years
1 (Rasor/Barr)	59.6	67.3	68.9
4 (Birdsall/Boese)	58.9	66.6	67.3
5 (RBBB or BBBR)	58.9	66.8	68.7

In terms of final outcome, Model 5 adequately represents the other models. Sample size is kept large in the denominator with Model 5. The only drawback is that with a larger denominator, proportionally fewer students complete transfer English and math. Model 5 addresses in a retroactive manner two questions: (1) What percent of new freshmen students complete transfer English and math? (2) Of that group, what percent reach transfer eligible status?

Finally, with Model 5, the previous operational definition in Model 1 would be modified as follows:

Transfer Directed (Denominator)

New freshmen students without prior college units who at any time during a specified enrollment period at the college (or colleges within the district), successfully completed ("C" or higher using any grade of record) the transfer level English writing course (e.g., English 1A or ESL equivalent) as well as a transfer level math course, both of which satisfy these particular general education requirements in the California State University system.

Transfer Eligible (Numerator)

Students who earlier met the definition of transfer directed, and who also successfully completed 56 or more transfer level units (or quarter unit equivalent) within a specified period of time, with a cumulative GPA of 2.0 of higher in those transfer courses.

Transfer Eligible Rate

$$\frac{\text{Student Count of Transfer Eligible}}{\text{Student Count of Transfer Directed}} \times 100$$

Conclusion

It would seem to us that Model 5 with its lack of initial denominator restrictions, adequately addresses the transfer readiness question; what percent of freshmen students who successfully pass university level English and math become eligible for transfer? This approach covers the issues of student intent to transfer, student ability, and a flexible time period to complete English and math requirements. Furthermore, Model 5 starts with the largest sample size (all freshmen), and captures the maximum number of students who become eligible to transfer. The greater the number of restrictions placed upon the initial cohort can result in missing many students who could become eligible for transfer. Lastly, one need not worry about excluding students who are exclusively in certificate or vocational programs because they are unlikely to enroll in transfer level English and transfer level math.

ADDENDUM.

Following our preparation of this report, the State Chancellor's Task Force on Transfer Readiness met on March 2, 1995. There was a clear impression that members favored a model which included in the denominator only enrolled in transfer English and transfer math versus successful completion of these courses. Because we did not contrast these two approaches in the main report, we offer the comparison as an addendum. Table 11 contrasts enrolled only versus completion of English and math. Table 12 shows the overall student performance for both cohorts. The resolution of which cohort to use with the denominator of transfer eligibility will be forthcoming in the next report.

TABLE 11. CONTRAST OF MODEL 6 (ENROLLMENT ONLY IN ENGLISH AND MATH) VS. MODEL 5 (SUCCESSFULLY COMPLETED ENGLISH AND MATH)

ENROLLMENT PERIOD *4 YEARS*
SCHOOL *ARC*
YEAR STARTED *COMPOSITE Fall 87, 88, 89 Semesters*

Initial Cohort - All Freshmen	Enrolled Only Count	Enrolled Only Percent	Successfully Completed Count	Successfully Completed Percent
Freshmen Cohort	**10,782**	**100.0**	10,782	100.00
Transfer Directed				
Transfer Level English	**3,860**	**35.8**	2,887	26.8
and Transfer Level Math	**2,347**	**21.8**	1,667	15.5
Transfer Eligible				
and 56+ Transfer Units	**1,229**	**11.4**	1,121	10.4
and GPA 2.00+ Transfer Courses	**1,220**	**11.3**	1,114	10.3
Transfer Eligible Rate	1,220/2,347	**52.0**	1,114/1,667	**66.8**

Numerator = 56+ Units & 2.00+ GPA Transfer Level Courses
Denominator = Enrolled in **or** Successfully Completed Transfer Level English and Transfer Level Math.

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TABLE 12. COMPARISON OF TOTAL ACADEMIC PERFORMANCE OF COMPOSITE FIRST-YEAR FRESHMEN. RESULTS ARE FROM FALL 1987 THROUGH FALL 1992 WHO ENROLLED IN BUT WHERE NOT SUCCESSFUL IN TRANSFER LEVEL ENGLISH AND MATH WITH THOSE WHO SUCCESSFULLY COMPLETED TRANSFER LEVEL ENGLISH AND MATH (COHORT = ALL FRESHMEN, NO RESTRICTIONS).[1]

	Successfully Completed Transfer Level English and Math		Enrolled But Did Not Successfully Complete Transfer Level English and Math	
	Count	**Grade Notations (%)**	**Count**	**Grade Notations (%)**
A	13,384	31.2	2,393	16.2
B	12,453	29.1	2,626	17.8
C + CR	9,369	21.9	3,079	20.9
D	1,867	4.4	1,161	7.9
F+ NC	1,218	2.8	1,537	10.4
WT	4,561	10.6	3,942	26.7
total grade records	*42,852*		*14,738*	
unduplicated count	*1,667*		*680*	
	Percent		Percent	
Success[2]	**82.20**		**54.90**	
Research GPA[3]	2.74		2.05	
Regular GPA[4]	**2.92**		**2.30**	

1. All students had at least one grade of record as of first census
2. Success is defined as counts of A, B, C, CR divided by all grade notations except I and IP.
3. Research GPA is a 4-point scale where A=4, B=3, C or CR = 2, and D, F, NC, WT = 1.
4. Regular GPA is computed as A=4, B=3, C=2, D=1, F=0. Grade notations of CR, NC, or WT are excluded.